SPRING 2015 UPDATE

The epic winter of 2014-2015 lingered well into April. Snow and cold temperatures delayed the much anticipated arrival of spring weather. While winter weather may delay the start of mosquito season, the inevitable happens when the sun is higher in the sky. Temperatures rise. The mosquitoes play catch up with warmer temperatures. This year the first mosquitoes will hatch from the water during the first half of May. Black flies are hatching right now. Record levels of snow during the winter means heavy mosquito populations during the spring and early summer. It's impossible to predict if this scenario will impact the EEE (Eastern Equine Encephalitis) activity later in the season. A wet summer has a greater impact on the amount of EEE found throughout the State. A dry summer favors West Nile Virus.

Crews have been checking wetlands during the month of April to assess the mosquito population. The data shows heavy to moderate numbers of mosquito larvae in the stagnant water left over from the snow melt and spring rains. The mosquito species that hatch early are not a public health threat. These early spring mosquitoes are a biting nuisance but not carrying EEE or WNV. That threat doesn't become apparent until late July through October.

Most spring species will hatch once and then they're done. They die out after a few weeks. Some species will have multiple generations or broods, hatching every month after heavy rains re-flood their habitat. These species are more likely to play a role in the transmission of diseases like EEE.

Control of mosquito larvae, called larviciding, is done in the spring and after heavy rains. In towns with salt marsh, larviciding is done after a flood tide or heavy rains. The main insecticide used to kill larvae is a *Bacillus* bacterium known as Bti. A bacterial spore imbedded on ground up corncob or on sand to create a granular material that is applied to the water where larvae exist. The larvae are filter feeders and ingest the Bti. They die after the pH in their midgut is disrupted. This product is not toxic to nontarget organisms like beetles, dragonflies, birds, fish, reptiles, amphibians, mammals including humans and their pets.

Larvae go through a pupal stage before they hatch into adult mosquitoes and fly off in search of blood or plant nectar. Once the adults are on the wing, trapping begins. Traps are set in fixed location throughout town each week. The catches are brought back to our headquarters where they are frozen, sorted, identified to species and pooled into tubes which are sent to the State Lab in Concord for disease testing. The State begins testing on July 1st. Only select species are accepted for testing.

If a batch of mosquitoes, called a pool, tests positive for EEE or WNV, then the State will contact the town and Dragon. This information may trigger the need for a press release, emergency spraying, more larval habitats surveys, larviciding or more public education. The peak of the EEE occurs during the first week of September, but disease activity may continue until it snows. No one wants to think about that yet!

Respectfully submitted,
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